

probably an alien species. Despite the restricted range expansion of this species for some time after its first discovery in the 1950s in Wakayama Prefecture (Yamamoto, 2000), the later increase in localities (Hotta, 1997; Yamamoto, 2000; Yamazumi, 1993) should be considered the result of climate warming.

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***Marsilea mutica* in Maryland.**—*Marsilea mutica* Mett. has previously been reported from Virginia (Knepper *et al.*, Amer. Fern J. 92(3):243–244. 2002.) South Carolina, Georgia, Oklahoma, Louisiana, Alabama, Mississippi, and Florida (www.cars.gov/Region-5-Report/html/emergent_plants.html). In August 2006 Arnold (Butch) Norden of the Maryland Department of Natural Resources reported to me that he had seen a water clover along the edge of a pond in Charles County, Maryland, although he did not know which species.



FIG. 1. Dense colony of *Marsilea mutica*.

Upon questioning him, he described the leaf as having a band around the center. I suspected from his description that this was *M. mutica* (Banded Nardoo).

Upon visiting the site, a community fishing pond on the south side of route 5 at Hughsville, I confirmed my tentative identification and the first report of this species as an accidental, or deliberate, introduction into Maryland waters (Fig. 1). I was astounded by the incredible density of this species in the one-acre pond. Since this plant spreads by rhizomes, the exact number of plants could not be determined. However, there were tens of thousands of stems in the pond, indicating that this species has been in this pond for a number of years. Although there were stems all the way around the perimeter and some in the center of this 2–3 foot deep pond, the stems were of much great abundance on the north side of the pond next to the road. Although there is a forest dominated by *Liquidambar styraciflua* L. on two sides of the pond, shade from the trees was almost non-existent on the north side of the pond. Thus the most abundant patches are on the north side of the pond indicating a strong preference by *M. mutica* for sunlit areas. Common associated species include *Typha latifolia* L., *Azolla caroliniana* L., *Juncus* spp., *Carex* spp., *Cyperus* spp. and the algae *Lyngbea* spp.

Marsilea mutica is native to tropical areas of Australia and New Caledonia. Its ability to withstand the winter cold of a pond in southern Maryland may be due to the deep burial of the plant's rhizomes in the 6–7 inches of silt in the pond bottom.—D. EARL REDMAN, 2615 Harwood Road, Baltimore, MD 21234-2919.